YAMPI

AUSTRALIA 1:250 000 GEOLOGICAL SERIES | **GEOLOGICAL SURVEY OF WESTERN AUSTRALIA** | **SHEET SE 51–3**

SYMBOLS

Geological boundary
Fault
- accurate
- concealed, inferred
- normal
- reverse
- shear zone

Fold (showing plunge)
- anticline, concealed
- syncline, concealed
- overturned anticline
- overturned syncline
- minor anticline
- minor syncline
- locality of superimposed folds

Small-scale folds showing orientation of axial surface, direction of plunge and nature of vergence (Z, S or M)
- D_1
- D_2
- D_3
- D_4

Bedding, showing dip
- inclined
- vertical
- horizontal
- strike and dip of overturned strata
- dip estimated from aerial photography
- 0–15°
- 15–45°
- 45–90°
- vertical
- overturned 90–45°
- overturned 45–15°
- general trend of bedding

Way-up indicator
- top of bed

Cleavage, slaty or spaced
- S_1
  - inclined
  - vertical
- S_2
  - inclined
  - vertical

Crenulation cleavage
- S_2
  - inclined
  - vertical
- S_3
  - inclined

Foliation
- inclined
- vertical

Lineation
- D_1
  - inclined
- D_3
  - inclined
  - vertical
- D_4
  - inclined
- Stretching lineation
- axes of crenulation hinges

Air photo lineament

Major land use boundary
Formed road
Track
Homestead — Kimbolton
Building
Yard
Landing ground
Lighthouse
Coral reef
Rock or reef
Boundary of shoal
Horizontal control; major, minor
Vertical control, height accurate — 43.52 / 39.m

Watercourse, intermittent
Pool
Rockhole — RH
Waterhole — WH
Soak — Sk
Spring — S
Abandoned — (ABD)
Position approximate — PA
Bathymetric contour (not intended for navigational purposes) — 20

Mine
Open cut or quarry
- Major
- Major, abandoned
- Minor

Mineral prospect
Mulle ground, mining area
Mineral occurrence
- Beryl — Be
- Copper — Cu
- Heavy mineral sands — Hm
- Iron — Fe
- Lead — Pb
- Mica — Mi
- Silver — Ag
- Uranium — U

Petroleum exploration well, dry abandoned

REFERENCE

CAINOZOIC

QUATERNARY

Qa — Alluvium — unconsolidated silt, sand, and gravel
Qcl — Tidal flat and mangrove swamp deposit — silty clay, black organic clay; minor salt and beach ridge deposits
Qcs — Supratidal mudflat deposit — clay, silt, sand; minor salt
Qcb — Beach ridge deposit — quartzose sand, shelly in places
Qb — Black soil — clay and silt

Qa | Qcl | Qcs | Qcb | Qb

Czs — Colluvium and alluvium — partly consolidated silt, sand, and gravel
Czc — Colluvium — partly consolidated scree and valley-fill deposits; cobble and boulder conglomerate
Czd — Colluvium and ferruginous duricrust — partly consolidated sand and gravel; usually developed on CPg

Czs | Czc | Czd

TERTIARY

Tp — **PENDER BAY CONGLOMERATE:** dark-grey boulder to pebble conglomerate

MESOZOIC

CRETACEOUS

Km — **MELLIGO SANDSTONE:** white to pale-grey, medium- to coarse-grained, silicified quartz sandstone; local large-scale cross-bedding

LATE JURASSIC TO EARLY CRETACEOUS

JKw — **JOWLAENGA FORMATION:** fine- to medium-grained silty sandstone; poorly sorted, commonly ferruginous

PALAEOZOIC

LATE CARBONIFEROUS TO EARLY PERMIAN — Grant Group

CPg — Undivided: massive aqueoglacial, unsorted silty sandstone, conglomeratic sandstone, conglomerate, siltstone, and shale

LATE DEVONIAN TO EARLY CARBONIFEROUS — FAMENNIAN—TOURNAISIAN — Fairfield Group

DCf — Undivided: silty limestone and calcarenite; calcareous shale and siltstone

DCl — **LILLYBOONDORA CONGLOMERATE:** boulder and cobble conglomerate

LATE DEVONIAN — FAMENNIAN — Reef Complex

Dl — **NULLARA LIMESTONE:** back-reef to reef-flat subfacies; bedded limestone and dolomite

Dw — **WINDJANA LIMESTONE:** reef-margin subfacies; massive limestone

Dn — **NAPIER FORMATION:** mefial-slope to fore-reef subfacies; bedded limestone, in part dolomitic

PROTEROZOIC

q — Quartz vein
d — Dolerite dyke

Pdh — **HART DOLERITE:** dark-grey dolerite
Ppw — **WITSELIUM PORPHYRY:** grey quartz-feldspar porphyry

Pdh | Ppw

< 1800 Ma

Kimberley Group

Pby — **YAMPI FORMATION:** pink-brown arkose and feldspathic sandstone; minor siltstone, hematitic quartz sandstone, glauconitic sandstone
Pbu — **PENTECOST SANDSTONE:** white, well-sorted quartz sandstone; grey siltstone
Pbs — **ELGEE SILTSTONE:** red-brown and grey siltstone and minor phyllite; thin sandstone interbeds; boulder to pebble conglomerate
Pbw — **WARTON SANDSTONE:** white, well-sorted quartz sandstone and feldspathic sandstone; siltstone interbeds
Pbc — **CARSON VOLCANICS:** basaltic lava, tuff, agglomerate; quartz sandstone, feldspathic sandstone, laminated siltstone, and mudstone
Pbcs — Feldspathic sandstone

< 1800–1840 Ma

Speewah Group

Pbk — **KING LEOPOLD SANDSTONE:** white to pale-brown, coarse-grained, well-sorted quartz sandstone
Pbl — Undivided: pale purple-grey to buff quartz sandstone; micaceous in places, minor phyllite; pebble to cobble conglomerate

q — Muscovite pegmatite dyke

Pgm | Pgl | Pgr | Pgh | Pgss | Pgn | Pgs | Pgt | Pgsb

Pgm — **MONDOOMA GRANITE:** foliated, quartz-phyric biotite micromonzogranite; minor syenogranite and granodiorite
Pgl — **LENNARD GRANITE:** foliated, coarse porphyritic biotite monzogranite; minor syenogranite, granodiorite and non-porphyritic varieties
Pgc — **CONE HILL GRANITE:** foliated, coarse porphyritic biotite monzogranite
Pgh — **CASCADE BAY MONZOGRANITE:** foliated, coarse porphyritic biotite-muscovite monzogranite
Pgss — **SECURE BAY MONZOGRANITE:** foliated, medium- to fine-grained biotite monzogranite; sparsely porphyritic
Pgn — **NELLIE TONALITE:** foliated hornblende–biotite tonalite and granodiorite
Pgs — **SQUARE TOP MICROGRANITE:** metamorphosed altered quartz-phyric microgranite; quartz-kyanite-chloritoid rock
Pgt — **TARNALI MICROGRANITE:** foliated, porphyritic biotite micromonzogranite
Pgsb — **MOUNT DISASTER PORPHYRY:** foliated, coarse porphyritic biotite micromonzogranite

< 1840 Ma

Pw — **WHITEWATER VOLCANICS:** foliated rhyodacite lava, tuff, and minor volcaniclastic sedimentary rocks; commonly crystal-rich

< 1850 Ma

Pdr — **RUINS DOLERITE:** medium- to fine-grained metadolerite, and minor coarsely porphyritic varieties

< 1880 Ma

Pys | Pma | Pmb

Pm — **WARBOO FORMATION:** predominantly low-grade, thin turbiditic metasandstone and quartz-chlorite-muscovite(-biotite-chloritoid) phyllite
Pma — Medium-grade quartz-muscovite-biotite(-chlorite) metapsammite and quartz-muscovite-biotite-chlorite-andalusite-staurolite-garnet-chloritoid) pelitic schist
Pmb — Hornfels: quartz-feldspar-muscovite-biotite-garnet metapsammite interlayered with quartz-K-feldspar-muscovite-biotite-sillimanite(-andalusite)-cordierite metapelite

< 1900 Ma

CANNING BASIN
KIMBERLEY BASIN
HOOPER COMPLEX

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INDIAN	OCEAN	CAMDEN SOUND 55 51–15	BRUCE ROCK 55 51–16	ASHTON 55 52–13
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The lines indicate magnetic declination, 1985
+ means declination is east and correction must be added to compass bearing to give true bearing
– means declination is west and correction must be subtracted from compass bearing to give true bearing

Annual change is – 1' westerly

CAINOZOIC GEOLOGY

Qc — Tidal flat and mangrove swamp deposit
Q — Alluvium and black soil on flood plains
Cs — Colluvium and alluvium
Csd — Colluvium and ferruginous duricrust; includes valley-fill deposits
Pre-Cainozoic rock

SCALE 1:1 000 000
0 10 20 30 40 50 Kilometres

DEPARTMENT OF MINERALS AND ENERGY
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ACTING DIRECTOR, GEOLOGICAL SURVEY OF WESTERN AUSTRALIA

SCALE 1:250 000
5000 Metres 0 5 10 15 20 25 30 Kilometres

TRANSVERSE MERCATOR PROJECTION
ZONE 51 AUSTRALIAN MAP GRID

TECTONIC SKETCH MAP

M — Mesozoic
Py — Palaeozoic
Ky — Kimberley Group
Sy — Speewah Group
CANNING BASIN (LENNARD SHELF)
KIMBERLEY BASIN
Gy — Granitoid rocks
Pw — Whitewater Volcanics
Pdr — Ruins Dolerite
Pm — Warboo Formation
HOOPER COMPLEX
Strike slip fault

SCALE 1:1 000 000
0 10 20 30 40 50 Kilometres

DIAGRAMMATIC SECTIONS

NATURAL SCALE

SECTION A-B

A — CASCADE BAY — CONE BAY — STRICKLAND BAY — The Graveyard — KOOLAN ISLAND — B
SEA LEVEL
5 km

SECTION C-D-E

C — Duck Hole Shear — D — HIGH RANGE — SECURE BAY — COLLIER BAY — E
SEA LEVEL
5 km

P — Proterozoic rocks — undifferentiated
A — Possible Archaean basement
Strike slip fault — ⊙ movement towards viewer ⊗ movement away from viewer

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P.F. Playford 1989
D.C. Gellatly, G.M. Derrick, C.M. Morgan, J.Sofoulis, and R.A. Farbridge 1966–67
P.F. Playford and D.C. Lowry 1966
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